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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/848,780

05/18/2004

Edgar C. Robinson

INT99901

7233

21118 7590 03/29/2011
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EXAMINER

MASHRUWALA, NIKHIL P

ART UNIT

PAPER NUMBER

3749

MAIL DATE

DELIVERY MODE

03/29/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/848,780	Applicant(s) ROBINSON, EDGAR C.	
	Examiner NIKHIL MASHRUWALA	Art Unit 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 1-23 and 27-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/05/2011 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 4,771,762 of Bridegum in view of US patent 6,561,182 of Wong and in further view of US patent 5,025,985 of Enander.

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For claim 24, Bridegum discloses a hot water heater 10 for heating water (col 6, line 3 for cooking, bathing etc), said heater 10 being gas-powered (may or may not be diesel) and comprising a burner 62 operable to have combustion 16 taking place within said burner 10, an exhaust jacket per fig 1-4 surrounding said burner 10 to carry the exhaust of said combustion, a water jacket 60 carrying said water and being defined by an outer circumference of a water tank 12 which water tank surrounds said burner 10 and said exhaust jacket per fig 4, said water tank 12 further being defined by concave end portions 32 and 34 (cup-shaped tail & head portions, col 4, line 15-16 per fig 1) on opposite ends of said tank which are in contact with said water. Water heater of Bridegum does not disclose an exhaust manifold and diesel as a fuel. The water heater 1 of Wong discloses an exhaust manifold per fig 1 (exhaust pipe before exhaust stack 2, not numbered) similar to the claimed invention and the said exhaust manifold being separate from said burner 12 and said exhaust jacket 2 and an exhaust opening communicating between said exhaust jacket 2 and said exhaust manifold (see abstract and col 3, lines 25-65) and the exhaust manifold connected to said exhaust jacket by an opening, said exhaust manifold being operable to carry said exhaust emanating from said burner, said exhaust manifold running from said opening through said water jacket for a longitudinal distance generally approaching the length of said water jacket said exhaust manifold carrying said hot exhaust through said water jacket and discharging said hot exhaust from said exhaust manifold to an exhaust stack 2 located remotely from said opening water jacket. It would have been obvious for a person of ordinary skill in the art at the time the invention was made to provide such exhaust manifold to the

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water heater of Bridegum in view of Wong so that more heat would be recovered from a longer exhaust path would lower the flue gas temperature with enhance water heating efficiency. Neither Bridegum nor Wong may or may not use diesel as a fuel which is disclosed by the water heater of Enander for its recreational vehicle 20. burner 48 of Enander is diesel powered (col 7, line 53) and it would have been obvious for a person of ordinary skill in the art at the time the invention was made to modify the gas0fuel supply of Bridegum with diesel fuel in view of Enander so that the cost effective diesel fuel would be used.

For claims 25-26, the water heater 10 of Bridegum is used for recreational vehicle (abstract) and Enander discloses the usage of its hot water boiler for domestic purpose or room heating which is a residential use.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art of Bridegum, Enander and Wong disclose a potable water heater similar to the claimed by the invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NIKHIL MASHRUWALA whose telephone number is (571)270-3519. The examiner can normally be reached on Monday thru Friday- 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven McAllister can be reached on 571-272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nikhil Mashruwala/
Examiner, Art Unit 3749

/Steven B. McAllister/
Supervisory Patent Examiner, Art Unit 3749